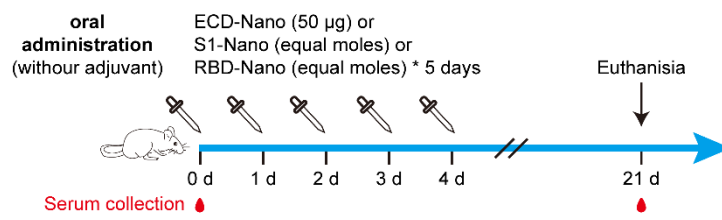


Figure S1. **(A)** The human ACE2 was co-expressed with EGFP in HEK-293T cells. **(B)** Baculovirus and other proteins in silkworm did not bind with hACE2.

A



B

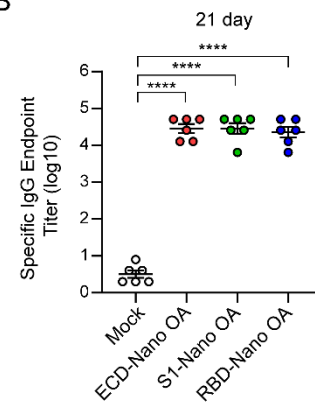


Figure S2. Safety assay of nanoparticle vaccines in mice via oral administration with high-dose. (A) The immunization protocols. (B) Detection of the specific IgG of sera of the oral immunized mice. The GMTs of ECD specific IgG in ECD-Nano immunized mice and S1 specific IgG in S1-Nano immunized mice were 28,707. The GMT of RBD specific IgG in RBD-Nano immunized mice was 22,803. Error bar, SEM; **** $P < 0.0001$.

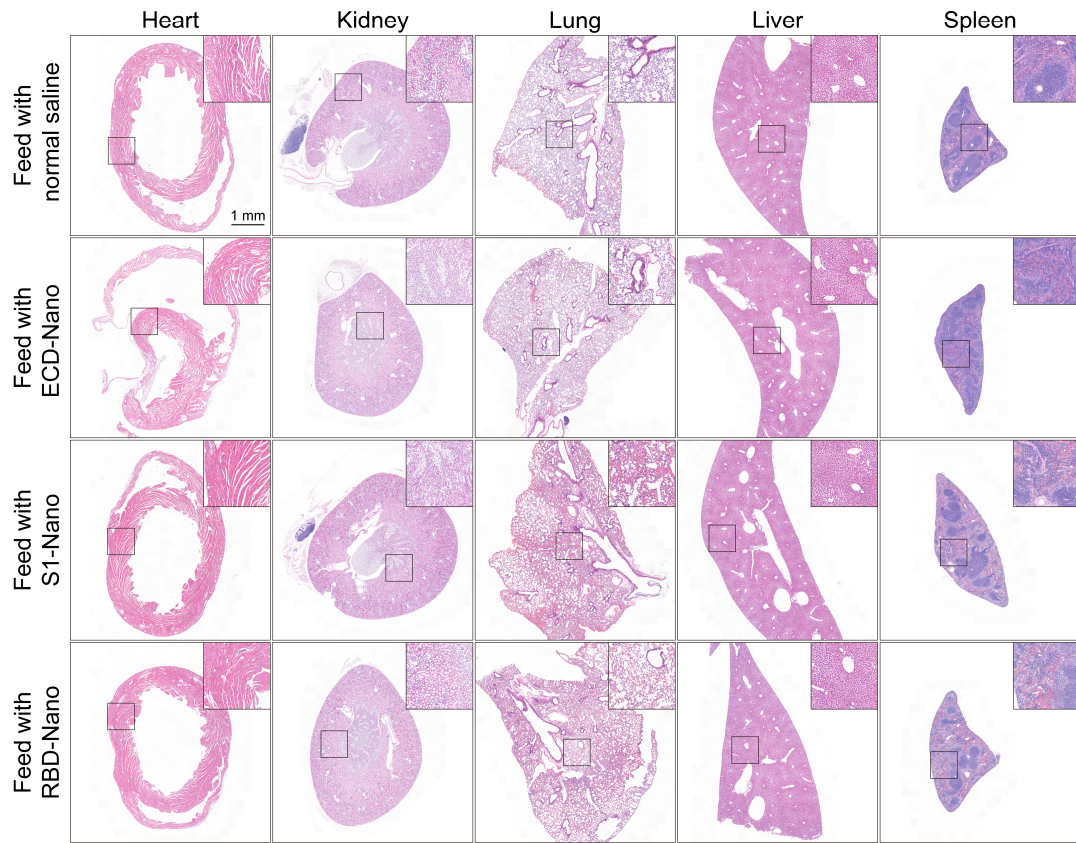


Figure S3. H&E staining of main organs (heart, kidney, lung, liver and spleen) of the mice treated with different nanoparticle antigens orally.

Table S1. Detection of neutralizing activity in sera of mice after immunization.

Serum of Mice Injected with	SARS-CoV-2 Virus strain	Dilution Gradient					Neutralization Titer
		1:20	1:40	1:80	1:160	1:320	
ECD-Nano		-	-	-	-	+	1:160
		-	-	-	+	+	
S1-Nano	Origin strain	-	-	+	+	+	1:80
		-	-	-	+	+	
RBD-Nano		-	+	+	+	+	1:30
		-	+	+	+	+	

		Dilution Gradient					Neutralization Titer
		1:4	1:8	1:16	1:32	1:64	
ECD-Nano		-	-	-	-	+	1:48
		-	-	-	-	+	
S1-Nano	Delta variants	-	-	-	+	+	1:32
		-	-	-	-	+	
RBD-Nano		+	+	+	+	+	<1:2
		+	+	+	+	+	

Method of neutralization test: microneutralization test, cytopathic effect (CPE) observation three days after cell infection.

-: No CPE.

+: Significant CPE.